

### **Abstract**

A gas sensor of the type having a housing defining a chamber within which light is transmitted from a source to a detector through an optical path, includes internal mirror portions having part ellipsoidal shape. Light is transmitted from a source to a detector via the reflective portions. The detector is arranged to sense light only from a limited range of angles, such that only light transmitted through a defined optical path reflected off the two reflective portions from the source reaches the sensor. This ensures that there is a constant optical path from the source to the detector, which improves the signal to noise ratio of the device.

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